

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-62 (Canceled).

Claim 63 (New): An electrostatic actuation device comprising:

at least one mobile electrode, comprising at least one part free to move with respect to a substrate;

at least two electrodes, fixed with respect to the substrate, located on a same side as the mobile electrode and each facing a part of the mobile electrode; and

means for forming at least one pivot of at least one portion of the mobile electrode, wherein the mobile electrode may bear on the pivot when one of the fixed electrodes attracts the part of the mobile electrode facing the fixed electrode, the other part of the mobile electrode possibly moving away from the substrate by mechanical return forces.

Claim 64 (New): A device according to claim 63, the mobile electrode comprising at least one mobile part along at least one direction perpendicular to the substrate.

Claim 65 (New): A device according to claim 63, the two fixed electrodes being separated from the mobile electrode by an insulating layer formed on the substrate and/or the mobile electrode.

Claim 66 (New): A device according to claim 63, the mobile part of the mobile electrode being connected by a pad to a membrane.

Claim 67 (New): A device according to claim 63, the means for forming the pivot comprising at least one pad fixed with respect to the substrate.

Claim 68 (New): A device according to claim 63, the means for forming the pivot comprising at least one arm arranged laterally with respect to the mobile part, or two arms arranged on each side of the mobile part.

Claim 69 (New): A device according to claim 63, the mobile part of the mobile electrode forming an elbow.

Claim 70 (New): A device according to claim 63, comprising four fixed electrodes arranged in pairs facing each other, the mobile electrode comprising two mobile parts arranged crosswise.

Claim 71 (New): A device according to claim 70, comprising two pivots.

Claim 72 (New): A device according to claim 65, the mobile electrode comprising at least one part embedded or fixed on or in the substrate or the insulating layer.

Claim 73 (New): A device according to claim 63, each fixed electrode being located facing at least one end of the mobile electrode, on one side of the means for forming the pivot.

Claim 74 (New): A device according to claim 63, the mobile electrode comprising at least two mobile parts, each part being free at one of its ends, a fixed electrode located facing each mobile part.

Claim 75 (New): A device according to claim 74, the mobile electrode comprising three mobile parts, there being three fixed electrodes, each located facing a part of the mobile electrode.

Claim 76 (New): A device according to claim 74, each mobile part of the mobile electrode being approximately elongated, and being laterally or angularly offset from each other.

Claim 77 (New): A device according to claim 63, comprising three fixed electrodes, the mobile part comprising three strips connected through an end.

Claim 78 (New): An electrostatic actuation device comprising:
a mobile part or flexible membrane being mobile or flexible, with respect to a substrate, the part or membrane comprising at least two electrodes, separated by an electrically insulating portion;

at least one electrode, fixed with respect to the substrate, located on a same side of the mobile part or flexible membrane and for which a first part and a second part are located facing one of the corresponding electrodes of the mobile part or flexible membrane; and
means for forming at least one pivot of at least one portion of the mobile part or flexible membrane that may bear on the pivot when one of the fixed electrodes attracts one of

the electrodes of the mobile part or flexible membrane, the other mobile electrode being free to move away from the substrate by mechanical return forces.

Claim 79 (New): A device according to claim 78, the mobile part or flexible membrane being free to move along at least a direction perpendicular to the substrate.

Claim 80 (New): A device according to claim 78, the two fixed electrodes being separated from the mobile electrode by an insulating layer formed on the substrate and/or the mobile electrode.

Claim 81 (New): A device according to claim 78, the mobile part or flexible membrane being connected by a pad to a membrane.

Claim 82 (New): A device according to claim 78, the means forming the pivot comprising at least one pad fixed with respect to the substrate.

Claim 83 (New): A device according to claim 78, the means for forming the pivot comprising at least one arm arranged laterally with respect to the mobile part or flexible membrane, or two arms arranged on each side of the mobile part or flexible membrane.

Claim 84 (New): A device according to claim 78, the mobile part or flexible membrane forming an elbow.

Claim 85 (New): A device according to claim 78, comprising four fixed electrodes arranged in pairs facing each other, the mobile part or flexible membrane comprising two mobile parts or two flexible membranes arranged crosswise.

Claim 86 (New): A device according to claim 85, comprising two pivots.

Claim 87 (New): A device according to claim 80, the mobile part or flexible membrane comprising at least one part embedded or fixed on or in the substrate or the insulating layer.

Claim 88 (New): A device according to claim 78, each fixed electrode being located facing at least one end of a mobile electrode, on one side of the means for forming the pivot.

Claim 89 (New): A device according to claim 78, the mobile part or flexible membrane comprising at least two mobile electrodes or two flexible membranes, connected at one end by an insulating portion, each mobile electrode being free at one of its ends, a fixed electrode facing each mobile electrode.

Claim 90 (New): A device according to claim 89, the mobile part or flexible membrane comprising three mobile electrodes.

Claim 91 (New): A device according to claim 89, the mobile electrodes being approximately elongated and being laterally or angularly offset from each other.

Claim 92 (New): A device according to claim 78, comprising at least two fixed electrodes.

Claim 93 (New): A device according to claim 63, an electrical contact element being fixed on the mobile part.

Claim 94 (New): A device according to claim 63, the mobile electrode, the fixed electrodes, and the pivot being approximately in a plane on a surface of the substrate.

Claim 95 (New): A device according to claim 63, at least one mobile electrode comprising magnetic or partially magnetic means, the device further comprising fixed magnetic means with respect to the substrate, for creating a contact with the magnetic means of the mobile electrode.

Claim 96 (New): A device according to claim 95, an electrostatic force and magnetic force involved during a contact having a relative difference of about 10%.

Claim 97 (New): A device according to claim 95, an electrostatic force and magnetic force involved during a contact being greater than the mechanical return forces.

Claim 98 (New): A device according to claim 97, an electrostatic force and magnetic forces involved during a contact being at least 10 times greater than the mechanical return forces.

Claim 99 (New): A device according to claim 95, the magnetic means of the mobile electrode and the fixed magnetic means defining at least two stable positions of the device.

Claim 100 (New): A device according to claim 63, further comprising at least one fixed electrode and one mobile electrode defining a capacitor.

Claim 101 (New): A device according to claim 63, the means for forming the pivot being used to hold a point of a mobile electrode at a height of between 50 nm and 20 μ m with respect to the substrate.

Claim 102 (New): An actuation device for an optical component comprising:
at least one electrostatic actuation device according to claim 63;
support means for an optical component, connected to the mobile electrode, and being driven in displacement by the mobile electrode during displacement of the mobile electrode.

Claim 103 (New): A device according to claim 102, at least one of the electrodes of one of the actuation devices comprising an elongated body with a first width along a first direction and a starter end with a second width wider than the first width.

Claim 104 (New): A device according to claim 102, comprising two electrostatic actuation devices, the support means of an optical component being connected to the two devices.

Claim 105 (New): A device according to claim 104, the two actuation devices being arranged on each side of the support means of an optical component.

Claim 106 (New): A device according to claim 104, the two actuation devices being arranged on a same side as the support means of an optical component.

Claim 107 (New): A device according to claim 104, the two actuation devices extending along two directions approximately parallel to each other.

Claim 108 (New): A device according to claim 104, the two actuation devices each comprising a curved part.

Claim 109 (New): A device according to claim 108, the two actuation devices being mechanically connected by at least one common end.

Claim 110 (New): A device according to claim 104, comprising two drive arms connecting the two electrostatic actuation devices to the support means of an optical component.

Claim 111 (New): A device according to claim 104, comprising a substrate in which a cavity enables pivoting of support means of the optical component.

Claim 112 (New): A device according to claim 104, further comprising a frame and connecting means connecting the electrostatic actuation device and the support means of an optical component to the frame.

Claim 113 (New): A device according to claim 112, the connecting means comprising torsion arms.

Claim 114 (New): A device according to claim 104, the support means having a closed contour with a curvature.

Claim 115 (New): A device according to claim 114, the electrostatic actuation means being arranged around or along the contour.

Claim 116 (New): A device according to claim 114, the electrostatic actuation means being arranged radially with respect to the contour.

Claim 117 (New): A device according to claim 114, the contour being circular.

Claim 118 (New): A device according to claim 114, further comprising stretching means arranged between the electrostatic actuation means and the support means.

Claim 119 (New): A device according to claim 118, the stretching means comprising at least one stretching loop.

Claim 120 (New): A manufacturing process for a device according to claim 63, comprising:

creating a first substrate, comprising one or two fixed electrodes with respect to the substrate;

forming the pivot and a mobile electrode or membrane, comprising at least two electrodes separated by an insulating portion, the electrode or membrane being free to move with respect to the first substrate.

Claim 121 (New): A process according to claim 120, the mobile electrode or membrane being made on a sacrificial layer formed or deposited on the first substrate, and then eliminated after formation of the mobile membrane or electrode.

Claim 122 (New): A process according to claim 122, the mobile electrode or membrane being made on the surface of a second substrate then assembled with the first substrate.

Claim 123 (New): A process according to claim 121, the mobile electrode or membrane then being removed from the surface of the second substrate by thinning the second substrate.

Claim 124 (New): A process according to claim 120, the means for forming the pivot being formed on the first substrate.